Methods: All patients undergoing CAS for primary carotid stenosis from 2003 to 2009 were reviewed. The independent association of statins and perioperative morbidity was assessed using multivariable analysis. Survival curves and Cox regression models were used to assess late morbidity and restenosis.

Results: A total of 1083 consecutive patients were treated (29% females, mean age71.6y); 464 (43%) patients were on statin medication before treatment. Statin use was associated with a reduction of perioperative stroke and death (HR 0.37; 95% CI 0.14-0.93; $p = 0.034$) and major stroke rate (HR 0.12; 95% CI 0.016-0.99%; $p = 0.049$) according to multivariable analysis. Statin effect was more significant in reducing stroke and death in symptomatic patients (HR 0.11; 95CI% 0.013-0.95; $p = 0.045$). At 60 months survival (78% vs 82%; $p = 0.024$) and stroke free interval ($p = 0.042$) rates were higher in statin group of patients. Adjusting for demographics and comorbidities in Cox regression analysis, statin use independently reduced long-term mortality risk (HR 0.6; 95% CI 0.36-0.98; $p = 0.043$) and borderline decreased the risk of late stroke (HR 0.24; 95% CI 0.053 to 1.09; $p = 0.06$). There was no effect on restenosis rates.

Conclusions: These data suggest that statin use may decrease both, perioperative and late stroke and mortality rates in patients undergoing CAS. Statin therapy should be considered part of the best medical treatment in current CAS practice.

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SS9.

Long-term Results of Endovascular Treatment of Subclavian and Innominate Arterial Stenosis

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Objectives: Obstructive lesions of the Brachiocephalic and Subclavian arteries have been traditionally managed using open surgery, but the advent of endovascular techniques offers a new approach to the management of these lesions. The aim of our study is to report clinical and imaging results of a 10-year experience of the endovascular management of these lesions with evaluation of end-points at 3-year follow-up.

Methods: A retrospective review of a prospectively collected data was undertaken of 112 patients (41 women; mean age 58.9 years, range 36-84) who presented to our institutions between 1997 and 2006 for endovascular treatment of 141 innominate or subclavian arterial occlusive lesions. End-points of the study were Primary Patency, Secondary Patency and Blood pressure differential in the affected limb at 1, 2 and 3 years follow-up.

Results: Initial technical success was achieved in 134 (95.03%) lesions. Primary patency was 97.01% at 1 year, 91.7% at 2 years and 91.5 % at 3 years. Secondary patency was 98.5% at 1 year, 97.7% at 2 years and 95.5% at 3 years. A sustained nonrecurrence of symptoms and a BP differential improvement by >10 mm Hg was observed in 90% cases at 3 years. Sub-analysis of data for stenotic lesions revealed that Balloon Angioplasty performed as well as Stenting. Stenting was superior to Balloon Angioplasty for total occlusions. There was a complication rate of 7.8% (2.84% major, 4.96% minor) with an attendant mortality rate of 0.89%.

Conclusions: In our experience, endovascular interventions can be accomplished safely with a high degree of technical success and excellent long-term clinical results making it an attractive first line treatment for intrathoracic supraaortic arterial occlusive disease. In addition, we advocate primary stenting for all ostial lesions as well as total occlusion in this setting.

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SS10.

Urgent Carotid Endarterectomy in Mild-to-Moderate Acute Strokes: Preventing Recurrence and Improving Neurological Outcome

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Objectives: To evaluate the safety and benefit of urgent carotid endarterectomy (CEA) in patients with carotid disease and acute stroke.

Methods: The study involved patients with acute minor and major strokes related to a carotid stenosis ≥50% who underwent urgent CEA. Preoperative workup included neurological assessment with National Institute of Health Stroke Scale (NIHSS) on admission or immediately before surgery and at discharge, carotid duplex scan, transcranial Doppler ultrasound, head computed tomography or magnetic resonance imaging. Endpoints were: perioperative (30-day) neurological mortality, NIHSS score improvement or worsening (defined as a variation ≥4), hemorrhagic or ischemic stroke recurrence. Patients were evaluated according to NIHSS score on admission (4-7 or ≥8), clinical and demographic characteristics, timing of surgery (< or > 6 hours), presence of brain infarction on neuroimaging. $p < 0.05$ was considered statistically significant.

Results: Between January 2005 and December 2009 62 CEA were performed from 2 to 280 hours from onset of symptoms (mean 34.2 ± 50.2). No neurological mortality nor stroke recurrence was detected. NIHSS score decreased in all but 4 patients with no new ischemic lesions detected. Mean NIHSS score was 7.05 ± 3.41 on admission and 3.11 ± 3.62 at discharge in the whole group ($p < 0.01$). Among factors affecting NIHSS decrease NIHSS score on admission showed the strongest association with the highest decrease in the ≥8 NIHSS score group (NIHSS 4-7 mean 4.95 ± 1.03 preoperatively vs 1.31 ± 1.7 postoperatively, NIHSS≥8 10.32 ± 1.94 vs 4.03 ± 3.67; $p < 0.001$).

Conclusions: The presence of a major stroke, or a high NIHSS score, does not contraindicate early surgery. To date, guidelines recommend treatment of symptomatic carotid stenosis within 2 weeks from onset of symptoms in order to minimize the recurrence of stroke. Our results suggest that minimizing the time for intervention not only reduces the risk of recurrence, but it can improve neurological outcome.

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VS 2.

Video Presentation
Carotid Endarterectomy by the Eversion Technique With and Without Shunt

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Background: The primary advantage of eversion endarterectomy of the carotid artery is that the closure of the arteriotomy does not require the use of a patch and the internal carotid artery reanastomosis onto the common carotid artery can be performed more quickly and simply. With the anastomosis on the larger part of the two major vessels, there is no longitudinal endpoint closure on the distal and obviously smallest part of the ICA and less artery needs to be exposed proximally and distally to perform the surgery. These seemingly small advantages may allow shorter carotid artery cross-clamp time and thus, shorter total operative time. It is an excellent technique for patients with a redundant ICA. One perceived drawback of this technique is the use of a shunt. In this video we demonstrate the eversion technique with and without the use of a shunt. We have performed over 10, 000 eversion endarterectomies at our institution since 1993 resulting in stroke mortality of 1.6%. Interestingly, there was no difference in gender as far as stroke mortality or restenosis. The eversion technique is durable and a useful technique in repair of carotid bifurcation disease.

Technical Description: This video shows the step-by-step technique of performing eversion carotid endarterectomy with and without shunt

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SS11.

Duplex-Guided Dialysis Access Angioplasty Can Be Performed Safely in the Office Setting: Techniques, Advantages and Results

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Objectives: To determine the utility of duplex guided angioplasty for hemodialysis access maturation and maintenance.

Methods: Between January 2008 and June 2009, 223 office-based duplex-guided hemodialysis access angioplasty procedures were performed in 125 patients by one vascular surgeon. 208 of the treated accesses were fistulae. Maturation angioplasty was performed in 115 cases. Maintenance angioplasty was performed in 108 cases. The most common indication for intervention was maturation failure which had occurred in 104 cases. Other indications included pulsatility in 29, low access flow in 28, decreased flow in 23 and infiltration in 13. Procedures were performed in the office using a combination of topical and local anesthesia. Volume flow was recorded prior to introducer insertion (baseline) and post intervention. Stents were placed in 5 cases.

Results: Technical success was achieved in 251 cases (98.2%). Complications occurred in 21 cases (9.4%) which included introducer site hematomas (2), introducer site pseudoaneurysms (4), thrombus development (8), angioplasty site rupture (3) and angioplasty site pseudoaneurysms (2). For all interventions combined, the average baseline volume flow was 447 mL/min. The average final volume flow was 820 mL/min. The volume flow increased by an average of 83.6 % post intervention. Immature fistulas had an average baseline volume flow of 271 mL/min. Average final volume flow for these fistulae was 522 mL/min. The volume flow increased by an average of 93% after maturation angioplasty. Dysfunctional fistulae and grafts had an average baseline volume flow of 616 mL/min. Average final volume flow was 1, 143 mL/min. The volume flow increased by 85.4% after maintenance angioplasty.

Conclusions: Duplex guided dialysis access angioplasty can be performed safely and effectively in the office setting. It offers the advantage of treating the patient without radiation